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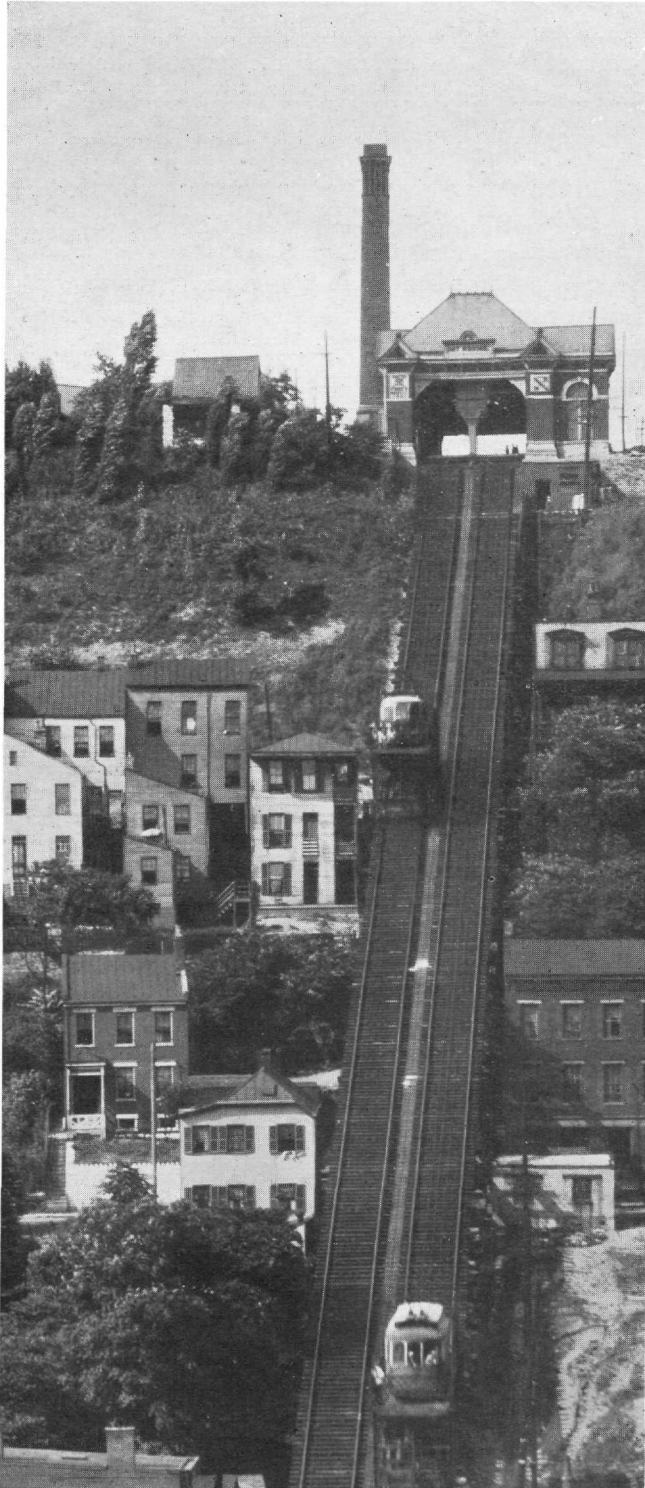
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OHIO'S OWN

By ELBERT J. BOEBINGER

IV. THE MT. ADAMS INCLINE



WE are always interested in learning about oddities. Among these oddities are the largest thing of its kind, the smallest one of its kind, or the only one of its kind. The Mt. Adams incline in Cincinnati may be classified in the latter group.

The business section of Cincinnati is located in what might be termed a basin. The lower part of town is bordered on the south by the Ohio River and on the other three sides by steep hills, which are very common in the southwestern part of the state. About one-fourth the area of the town is in this basin.

Before 1870, the entire town was located in this basin but the city was growing fast and ground was getting scarce. The hills surrounding the town became a barrier to its progress. There were only a few who had moved to the hills because it was hard to get down into the basin where the city stood. All of the street car lines which operated in the city terminated at the foot of the hills.

In 1872 one of these car lines formed the Cincinnati Incline Plane Railway and built the Mt. Auburn incline which ascended to the top of the hills directly north of town. The immediate success of this incline plane led to the erection in 1875 of one to ascend the hill on the west, another in 1876 for the northeast hills, and the Mt. Adams incline in 1877, which ascended the hills east of town.

With the coming of the automobile many streets have been cut into the hills and have made incline planes unnecessary and all have discontinued operation except the Mt. Adams, which carries large loads and the Price Hill which carries only foot passengers. There are several inclines in the country for carrying foot passengers but the Mt. Adams incline is the only one large enough for street cars and automobiles. Since it is a curiosity from this standpoint, attention will be devoted only to this one.

The Mt. Adams incline was originally built to carry foot passengers only. Mule cars were operated from the heart of town to its foot, while a horse car ran from the head of the incline through Eden Park, and surrounding suburbs. With the coming of electric street cars the plane and trucks were rebuilt so that street cars could be carried up and down.

The length of the incline is 980 feet. The difference in elevation between the top and bottom is 270 feet which gives the plane a grade of almost 30%. The

plane consists of two parallel tracks which are similar to a railroad track but with a wider gage. There is a truck 51 feet long on each track. A truck will carry a full-sized street car or three automobiles. These trucks are wedge shaped with the upper wheels close to the platform of the truck and the lower wheels mounted so that they are at a sufficient distance from the platform to keep it horizontal with the plane.

The purpose of two trucks is to equalize the load. While one truck is going up the other is going down and when one is at the bottom the other is at the top. The two trucks are connected together by a $1\frac{3}{8}$ inch steel cable which makes several turns around two large sheaves at the top of the plane. An emergency brake is attached to these sheaves. This cable expands as the temperature rises during the day and lengthens the cable. This causes the descending truck to reach the bottom before the other reaches the top. During the night when the temperature is low the cable shortens. The cable is adjusted for these changes in length by the engineer in charge.

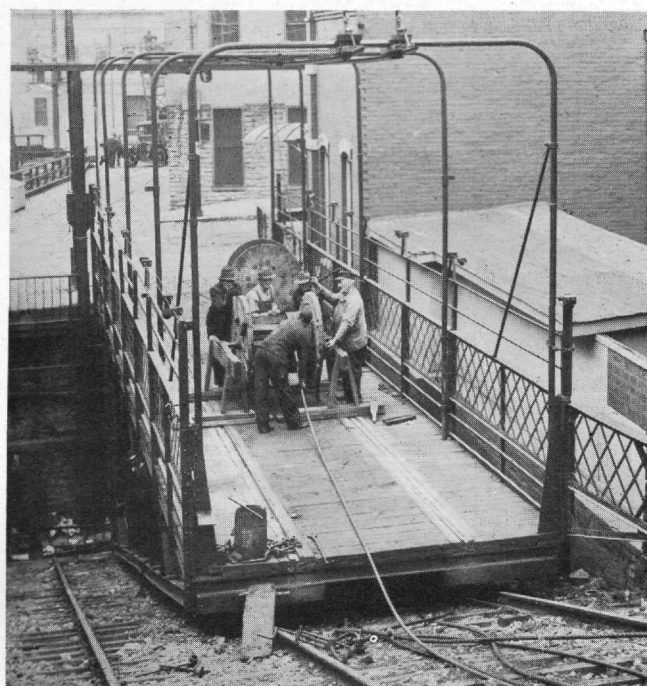
There are four $1\frac{1}{4}$ -inch cables to carry the load. These cables are 1200 feet long and two are used on each truck. They have a braking strain of 67 tons. They are wound around two large drums that are 14 feet in diameter and are fastened to the two 35-ton trucks. The drums are driven by two high pressure Corliss engines. These engines have been in service since the incline was built in 1874. Since they are required to run only intermittently and at a low speed they seldom need repair. The engineer in charge told the author that there was no one now living who had ever seen the main bearing apart.

Steam for the engines is generated by two horizontal boilers. One boiler is large enough to supply the steam required and the other is kept in readiness in case of breakdown. About two tons of coal are needed to operate the boilers for each day.

The operators of the incline are proud of the safety record they have. Every means of safety available is used. The cables and all running parts are inspected every morning. In case the engines should fail or if they are run too fast when the cars have almost reached their destination an automatic device will stop the cars before any damage occurs. In the sixty years of operation of the incline only one person has been killed and this was a workman who was repairing a truck.

The plane operates 20 hours a day with three crews consisting of engineers, operators, firemen, gatemen, and a superintendent. There are also competent millwrights and bridge carpenters who take care of the plane.

The plane is now owned by the Cincinnati Street Railway, who use it in connection with one of their car lines. Sometimes steam rollers are carried up or down when they are in use in the neighborhood. About



One of the Incline Trucks

the only automobiles that are carried are those of sight-seers who want the thrill of riding on it.

The incline is quite expensive to operate and it has been found that it would be cheaper to use buses in place of the car line which now uses it. However, since the incline has been a landmark in Cincinnati for so many years and is the only one of its kind, history, sentiment, and tradition took precedence over economy and it has been decided to keep it operating as a curiosity to tourists and visitors.

Clocking Old Sol

An ultraviolet light meter which takes the guesswork out of sunbathing has been developed by Dr. Matthew Luckiesh and A. H. Taylor, General Electric lighting research scientists.

Sunburn is caused by a narrow, invisible band of ultraviolet wave-lengths in the sun's spectrum. It is therefore impossible for an individual to time himself against burns and yet get the maximum benefit.

This new ultraviolet meter employs a photocell or electric eye which responds only to that band of wave-lengths in the sun's spectrum which causes sunburn. In operation, this cell, when exposed to sunlight, passes a small current which in turn clocks a counting relay of e-viton—a unit of ultraviolet producing the minimum perceptible sunburn. The counting continues as long as the meter is exposed, "clocking" the sun's rays, so to speak.

Individuals vary greatly in their susceptibility to sunburn; however, the average untanned person can, without danger, take approximately 125 units—the ultraviolet meter doing the measuring for him.